AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-55. Cancelled.

56. (Previously Presented) A magnetic resonance imaging (MRI) system providing an MR image of an imaging region of an object, said system comprising,

an MT (magnetization transfer) pulse applying unit configured to apply an MT pulse to the object so as to cause an MT effect in the imaging region, the MT pulse consisting of a plurality of divided MT pulses applied sequentially in time, a flip angle of each divided MT pulse being 90 to 100 degrees, and a region to be excited by the MT pulse spatially including the imaging region;

a gradient spoiler pulse applying unit configured to apply a gradient spoiler pulse to the object after applying the MT pulse;

a scanning unit configured to scan the imaging region with a pulse sequence to acquire an MR signal from the imaging region after applying the gradient spoiler pulse; and

an image producing unit configured to produce the MR image using the acquired MR signal.

57. (Previously Presented) The MRI system of claim 56, wherein each of the plurality of divided MT pulses applied by the MT pulse applying unit comprises an RF

pulse of which frequency is set to a value exciting magnetic spins residing in the imaging region.

58. (Previously Presented) The MRI system of claim 57, wherein each of the plurality of divided MT pulses applied by the MT pulse applying unit is shorter in duration than a slice-selective MT pulse.

59. (Previously Presented) The MRI system of claim 56, wherein the gradient spoiler pulse applying unit is configured to apply to the object the gradient spoiler pulse in at least one of slice, readout and phase-encoding directions spatially set to the object, the slice, readout and phase-encoding directions being perpendicular to each other.

60-63. Cancelled

64. (Previously Presented) A magnetic resonance imaging method of providing an MR (magnetic resonance) image of an imaging region of an object, the method comprising the steps of:

applying an MT (magnetization transfer) pulse to the object so as to cause an MT effect in the imaging region, the MT pulse consisting of a plurality of divided MT pulses applied sequentially in time, a flip angle of each divided MT pulse being 90 to 100 degrees, and a region to be excited by the MT pulse spatially including the imaging region;

applying a gradient spoiler pulse to the object after applying the MT pulse;

scanning the imaging region with a pulse sequence to acquire an MR signal from the imaging region after applying the gradient spoiler pulse; and

producing the MR image using the acquired MR signal.

65. (Previously Presented) The magnetic resonance imaging method of claim 64, wherein each of the plurality of divided MT pulses comprises an RF pulse of which frequency is set to a value exciting magnetic spins residing in the imaging region.

66. (Previously Presented) The magnetic resonance imaging method of claim 65, wherein each of the plurality of divided MT pulses is shorter in duration than a slice-selective MT pulse.

67. (Previously Presented) The magnetic resonance imaging method of claim 66, wherein the gradient spoiler pulse is applied in at least one of slice, readout and phase-encoding directions spatially set to the object, the slice, readout and phase-encoding directions being perpendicular to each other.

68. (Previously Presented) The MRI system of claim 58, wherein the duration of each divided MT pulse is as short as approximately 1300 μsec.

69. (Previously Presented) The magnetic resonance imaging method of claim 66, wherein the duration of each MT pulse divided is as short as approx. 1300 μsec.

70. Cancelled.

71. (Currently Amended) A method as in claim ~~70~~ 72 wherein said at least one MT pulse utilizes an RF frequency which MR excites magnetic spins in said object imaging region.

72. (Currently Amended) A magnetic resonance imaging method ~~as in claim 70~~ comprising, in the following sequence:

applying at least one MT pulse to an object imaging region;

applying at least one gradient spoiler pulse to said object imaging region;

acquiring MR image data from said object imaging region; and

producing an image using said acquired MR image data

wherein said at least one MT pulse comprises a plurality of divided MT pulses, each having a duration shorter than the duration of a slice selective MT pulse.

73. (Currently Amended) A magnetic resonance imaging method ~~as in claim 70~~ comprising, in the following sequence:

applying at least one MT pulse to an object imaging region;

applying at least one gradient spoiler pulse to said object imaging region;

acquiring MR image data from said object imaging region; and

producing an image using said acquired MR image data

wherein said at least one MT pulse comprises a plurality of divided MT pulses, each having a duration no greater than approximately 1300 μsec.

74. (Currently Amended) A method as in claim ~~70~~ 72 wherein said at least one gradient spoiler pulse is applied in at least one of mutually perpendicular (a) slice, (b) readout and (c) phase-encoding directions.

75. (New) A method as in claim 73 wherein said at least one MT pulse utilizes an RF frequency which MR excites magnetic spins in said object imaging region.

76. (New) A method as in claim 73 wherein said at least one gradient spoiler pulse is applied in at least one of mutually perpendicular (a) slice, (b) readout and (c) phase-encoding directions.